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 Pending
 Active
 L1: (60) lactone adj2 antioxidant
 L2: (443) tinuvin adj "327"
 L3: (38029) benzotriazole
 L4: (217) 12 same 13
 L5: (40484) 12 ad3 13
 L6: (13) 12 adj3 13
 Failed

EAST

sunlight is needed. The film is applied in mid February and runners cover the film in about mid-April. Watermelons are picked through June, after which the film is exposed to additional sunlight. Thus, although the film lasts for a total of about four months or 120 days, it is exposed to direct sunlight for only 60 days or so during planting and harvesting. Other crops and areas may require a different set of outdoor breakdown characteristics. The prior art did not teach how to control and regulated the breakdown of the mulch film within these narrow time limits.

(27) Although small amounts of UV absorbing type stabilizers may be effective in controlling the breakdown of 2-mil films, which is thicker than most normal mulch films which are about 1.25 to 1.5 mils, such methods of control are less efficient for thin films, 1.25 mil or less. For these films, different methods of breakdown control are needed. To further explain this phenomenon, examine a film of 0.85 mil compared to previous films having a thickness of 2 mils. Assume that the same amount of UV stabilizer, 0.3% of Tinuvin 327, a benzotriazole type stabilizer, was used. When the film is 2 mils thick a cross section of the film may have stabilizer at the surface or at one or two levels below the surface. When UV radiation contacts the film, it may be absorbed at the top level or by film below the surface. Thickness provides a safety unit to absorb UV radiation.

(28) But with a thin film, the stabilizer must absorb the UV radiation at the surface in order to control the rate of degradation, but since it cannot be at every point on the surface, more stabilizer is needed. For example, if the thickness of the film was reduced from 2 to 1 mil, a reduction of 50% the stabilizer might theoretically have to be increased by a minimum of 50% to obtain the same level of stability. Thus, the drop in cost gained by reducing

| U | Document ID | Issue Date | Pages | Title | Current OR | Current XRef | Retrieval C | Inventor | S | C | P | |
|----|-------------------|------------|-------|--|------------|-------------------------|-------------|----------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| 2 | US 20030124346 A1 | 20030703 | | Removable pressure-sensitive adhesive and adhesive sheet | 428/355AC | | | Yamanaka, Takeshi et al. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | US 20030065065 A1 | 20030403 | | Polyamide resin composition having excellent weather | 524/99 | | | Urata, Yoshihiro et al. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | US 6878762 B2 | 20050412 | | Polyamide resin composition having excellent weather | 524/102 | 524/538; 524/99 | | Urata, Yoshihiro et al. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | US 6869678 B2 | 20050322 | | Removable pressure-sensitive adhesive and adhesive sheet | 428/355AC | 524/457; 524/458; | | Yamanaka, Takeshi et al. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | US 6777470 B2 | 20040817 | | Polyolefin additive packages for producing articles with | 524/236 | 524/107; 524/303; | | Seip, Steven David et al. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | US 5582890 A | 19961210 | | Mineral filled heat seamable roof sheeting | 428/57 | 156/157; 156/159; | | Davis, James A. et al. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | US 5387458 A | 19950207 | | Articles exhibiting durable fluorescence with an | 428/141 | 359/361; 359/529; | | Pavelka, Lee A. et al. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | US 5342862 A | 19940830 | 17 | Process for controlling the photodegradation of mulch | 523/125 | 264/211; 523/124; | | Reich, Murray H. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | US 4286077 A | 19810825 | 7 | Weather resistant adhesive composition | 524/505 | 525/237; 525/338; | | St. Clair, David J. et al. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | US 4045555 A | 19770830 | 4 | Method for the photostabilization of | 514/179 | 424/DIG.12; 514/169; | | Ferrari, Giorgio et al. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | US 3632395 A | 19720104 | 6 | ARTICLE HAVING LIGHT-RESISTANT SIMULATED | 428/328 | 106/402 | | Dyson, John J. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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